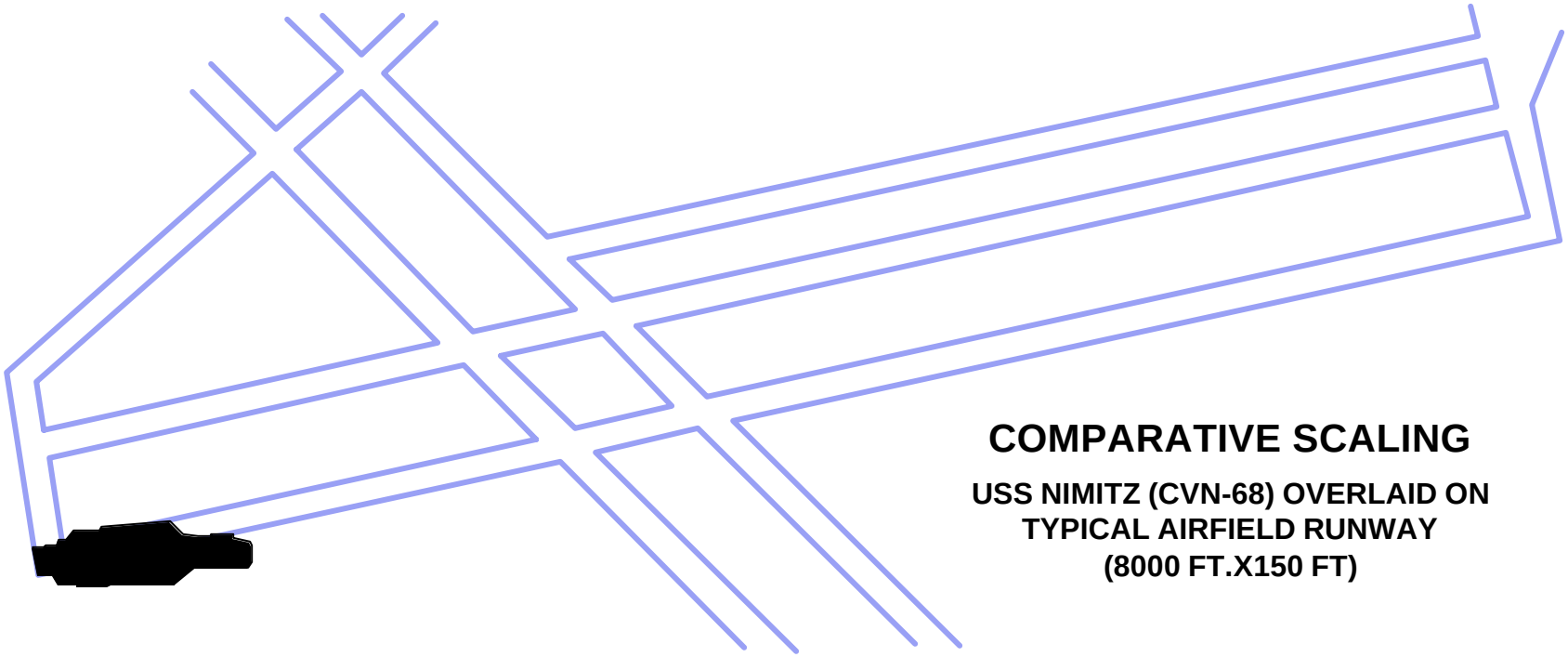

ONE TEAM SUPPORTING THE WARFIGHTER...
DELIVERING 21ST CENTURY AVIATION SOLUTIONS
ENABLING DOMINANCE FROM THE SEA
NATIONAL DEFENSE INDUSTRIAL ASSOCIATION
VADM JOE DYER
COMMANDER,
NAVAL AIR SYSTEMS COMMAND
26 FEBRUARY 2002
Naval Aviation Systems Team Vision

OUTLINE

- WHO WE ARE
- WHERE WE ARE GOING
- ENABLING TECHNOLOGIES AND PLATFORMS

NAVAIR

NAVAL AVIATION IS UNIQUE



COMPARATIVE SCALING

USS NIMITZ (CVN-68) OVERLAID ON TYPICAL AIRFIELD RUNWAY (8000 FT.X150 FT)

SEE THE WORLD THROUGH THE FLEET'S EYES AND MEASURE OUR SUCCESS BY THEIR SUCCESS

NAVAIR SITES

AIRCRAFT DIVISION, LAKEHURST, NJ

Provides aircraft launch and recovery expertise to the fleet.

AIRCRAFT DIVISION, PATUXENT RIVER, MD

Provides acquisition management, research and development capabilities, air and ground test and evaluation, aircraft logistics and maintenance management for Naval aviation.

TRAINING SYSTEMS DIVISION, ORLANDO, FL

Center for research, development, test and evaluation, acquisition and product support of training systems for the world.

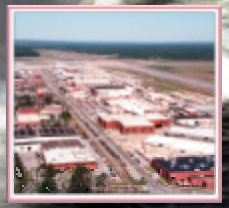
WEAPONS DIVISION, CHINA LAKE & PT MUGU, CA

Provides our forces with effective and affordable integrated warfare systems and life cycle support to ensure battlespace dominance.

NAVAIR DEPOT, NORTH ISLAND, CA

Provides comprehensive quality aviation support to the nation's warfighters.

Aircraft: F/A-18 Hornet; E-2C Hawkeye; C-2 Greyhound; S-3 Viking; H-60 Seahawk



NAVAIR DEPOT, CHERRY POINT, NC

Delivers on time quality products and services for Naval aviation as service to the fleet.

Aircraft: AV-8B, Harrier; H-53, Sea Stallion; C-130, Hercules; H-46, Sea Knight; V-22, Osprey; VH-3, Presidential Helicopter

NAVAIR DEPOT, JACKSONVILLE, FL

Delivers high quality maintenance, engineering, logistics and support services to the fleet.

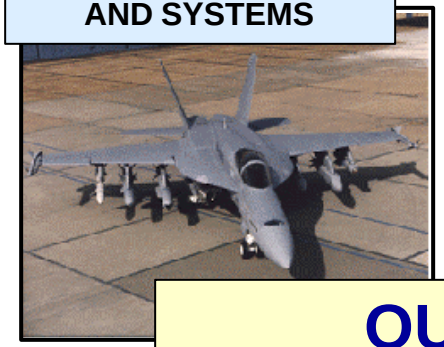
Aircraft: P-3 Orion; EA-6B Prowler, F-14 Tomcat, F/A-18 Hornet; S-3 Viking; SH-60 Seahawk

NAVAIR

OUR PRODUCTS . . .

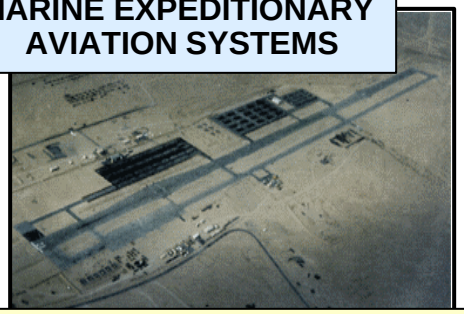
. . . MORE THAN AIRCRAFT AND WEAPONS, TOTAL SYSTEM CAPABILITY AND SUSTAINMENT

SEA BASED AIRCRAFT AND SYSTEMS

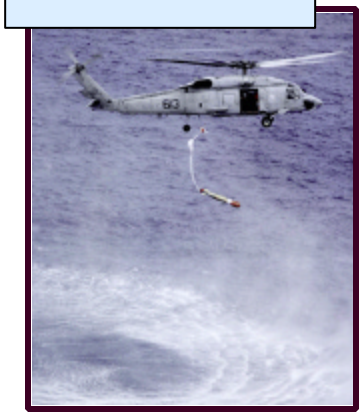


MARITIME WEAPONS

MARINE EXPEDITIONARY AVIATION SYSTEMS



AIR ASW / ASUW



AIRCREW / MAINTENANCE TRAINING SYSTEMS

OUR CORE PROCESSES . . .

. . . WE EXECUTE (ON BEHALF OF THE USER)

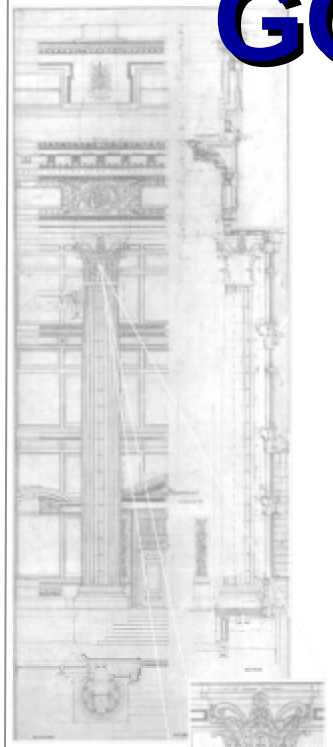
ACQUISITION MANAGEMENT	PERFORM ACQUISITION MANAGEMENT FOR THE DEVELOPMENT, PRODUCTION, AND IN-SERVICE SUPPORT OF AIRCRAFT AND WEAPONS SYSTEMS
TEST AND EVALUATION	TEST AND EVALUATE AIRCRAFT, WEAPONS AND INTEGRATED SYSTEMS
REPAIR / MODIFICATION	PROVIDE FOR THE REPAIR AND / OR MODIFICATION OF AIRCRAFT, ENGINES, SYSTEMS AND COMPONENTS
IN-SERVICE ENGR & LOGISTICS SUPPORT	PROVIDE FOR IN-SERVICE ENGINEERING AND LOGISTICS SUPPORT
TECHNOLOGY, R&D, HW / SW PRODUCTS	CONDUCT EFFORTS FOCUSED ON THE ADVANCEMENT OF TECHNOLOGY, RESEARCH AND DEVELOPMENT AND DELIVERY OF SOFTWARE / HARDWARE PRODUCTS
SUPPORT OPERATIONS	DEVELOP / MAINTAIN COMPETENCY POLICIES, PROCEDURES & SUPPORT SERVICES. FACILITATE EFFECTIVE UTILIZATION OF INFRASTRUCTURE, SECURITY, LEGAL, FINANCIAL, HUMAN & INFORMATION RESOURCES

NAVAIR

NAVAL AVIATION NETWORK CENTRIC WARFARE

BLUEPRINTING FUTURE COMBAT CAPABILITY

WHERE WE ARE GOING . . .



NETWORK CENTRIC WARFARE

"... AN INFORMATION SUPERIORITY-ENABLED CONCEPT OF OPERATIONS THAT GENERATES INCREASED COMBAT POWER BY NETWORKING SENSORS, DECISION MAKERS, AND SHOOTERS" [1]

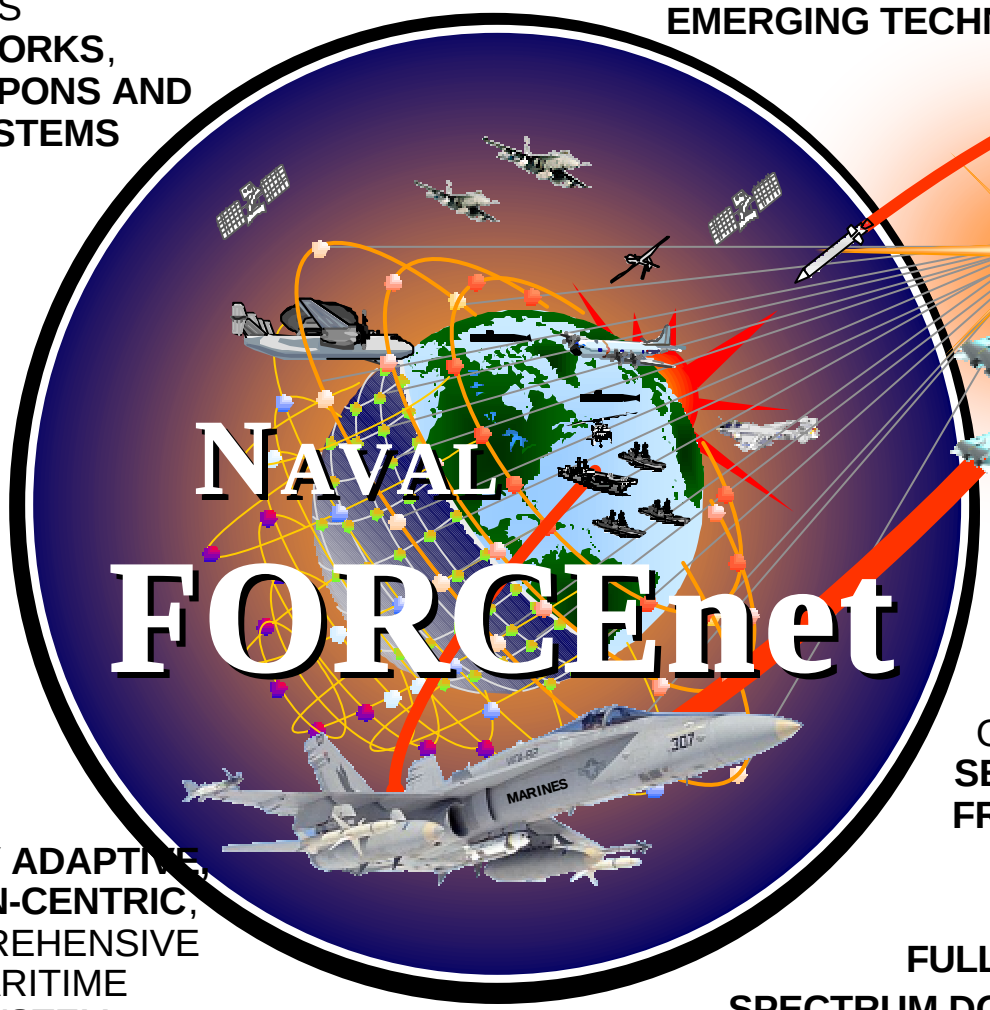
1) **"NETWORK CENTRIC WARFARE - DEVELOPING AND LEVERAGING INFORMATION SUPERIORITY"**, 2ND EDITION (REVISED), DoD C4ISR COOPERATIVE RESEARCH PROGRAM, 1999

NAVAIR

"EMBODIMENT OF NCW" – FORCENET

INTEGRATES
SENSORS, NETWORKS, DECISION AIDS, WEAPONS AND SUPPORTING SYSTEMS

EXPLOITING EXISTING AND
EMERGING TECHNOLOGIES



ENABLES
DISPERSED HUMAN DECISION-MAKERS

OPERATES FROM
SEABED TO SPACE, FROM SEA TO LAND

HIGHLY ADAPTIVE, HUMAN-CENTRIC,
COMPREHENSIVE
MARITIME
SYSTEM

FULL
SPECTRUM DOMINANCE
WITH JOINT, ALLIED, AND COALITION PARTNERS

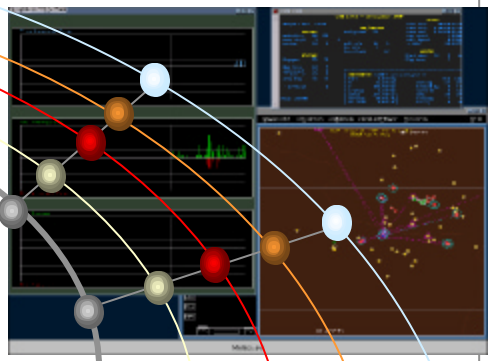
NAVAL AVIATION FORCENET NAVAIR NETWORK CENTRIC WARFARE OFFICE	2002 NATIONAL DEFENSE INDUSTRIAL ASSOCIATION DELIVERED BY: VADM JOE DYER	DATE: FEBRUARY 2002 VERSION: FINAL

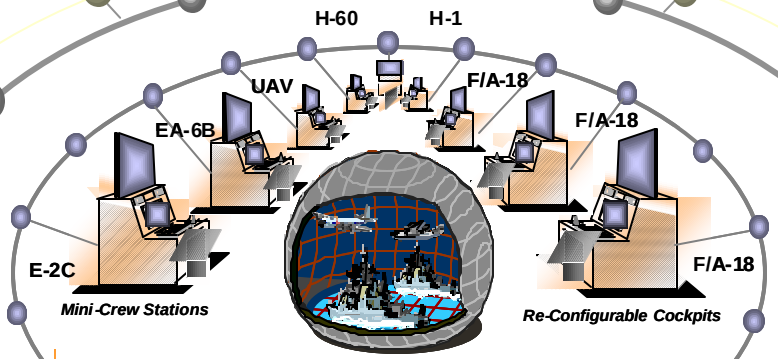
TOTAL CAPABILITY VS INFRASTRUCTURE

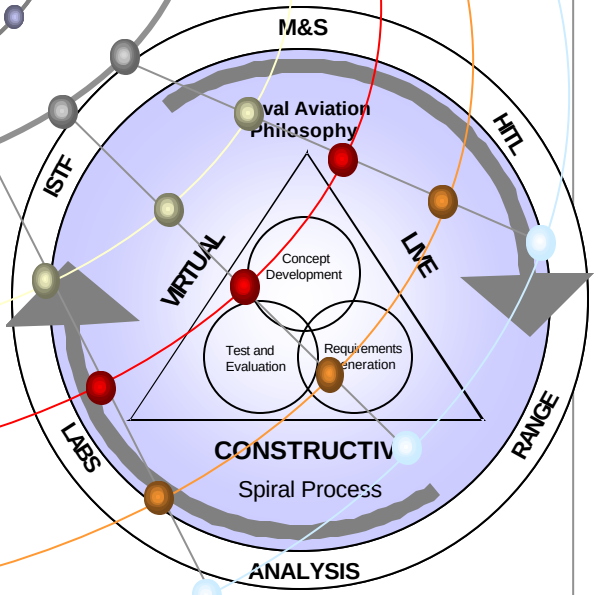
CLICK TO VIEW VIDEO

REAL-TIME MAN-IN-THE-LOOP COCKPIT INTERFACE

REAL-TIME METRICS







SIMULATIONS

SYSTEM INTEGRATION LABS

HARDWARE-IN-THE-LOOP FACILITIES

INSTALLED SYSTEM TEST FACILITIES

OPEN AIR RANGES

ENABLING TECHNOLOGIES AND PLATFORMS

NAVAIR

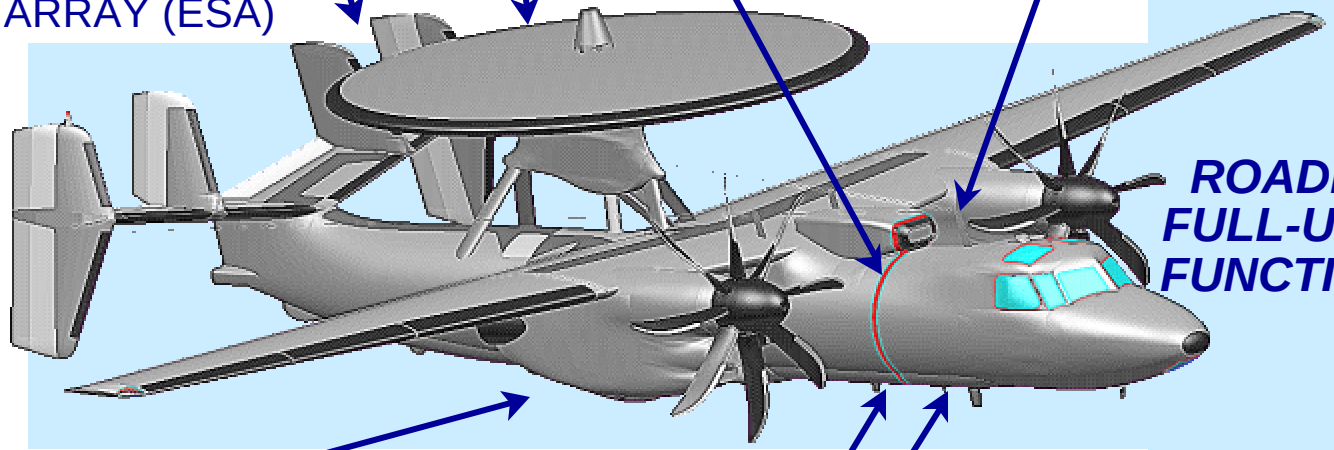
E-2C
LITTORAL CONFIGURATION

ELECTRONICALLY STEERED ARRAY

COMMON SIGNAL DATA PROCESSOR

IMPROVED IDENTIFICATION FRIEND OR FOE (IFF)
- CO-LOCATED ELECTRONICALLY SCANNED ARRAY (ESA)

UPGRADED MISSION COMPUTER UPGRADE (MCU)



HE2000

ROADMAP TO FULL-UP JTAMD FUNCTIONALITY

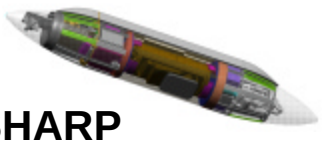
UPGRADED COMMUNICATIONS
- REPLACEMENT RADIOS
- NEW INTERNAL COMMUNICATIONS SYSTEM (ICS)

STAP RADAR

VEHICLE
- TACTICAL COCKPIT
- ACCOMMODATIONS FOR P3I
- PRODUCIBILITY

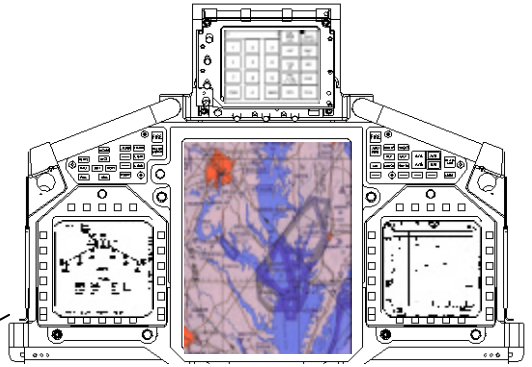
NAVAIR

F/A-18E/F FUTURE



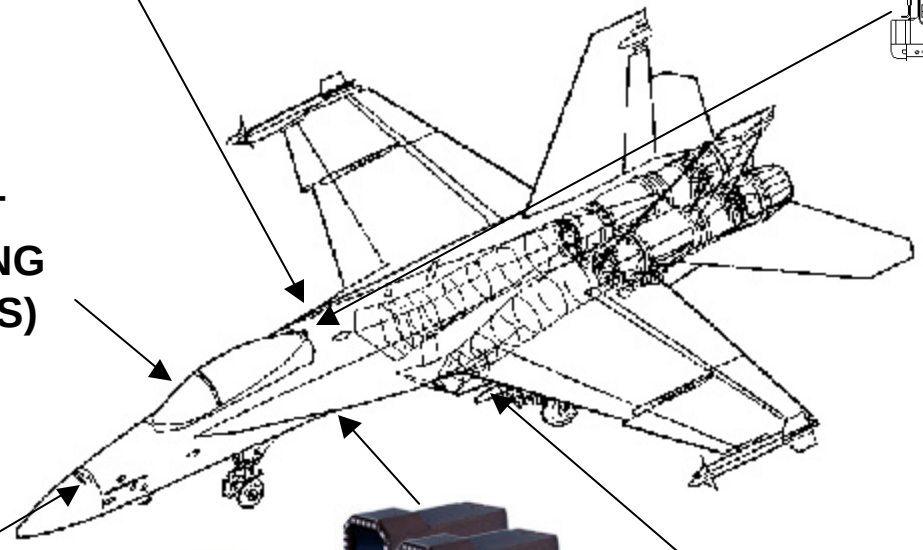
SHARP

HIGH ORDER LANGUAGE (HOL)



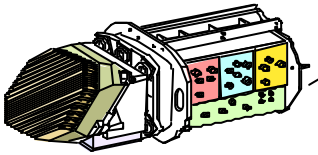
ADVANCED CREW STATION (ACS)

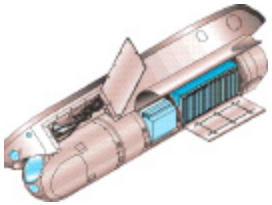
JOINT HELMET MOUNTED CUEING SYSTEM (JHMCS)



MIDS / PIDS

IDECM





ADVANCED TARGETING FORWARD LOOKING INFRARED (ATFLIR)

ADVANCED ELECTRONICALLY SCANNED ARRAY (AESA) RADAR

ADVANCED MISSION COMPUTER AND DISPLAYS (AMC&D)

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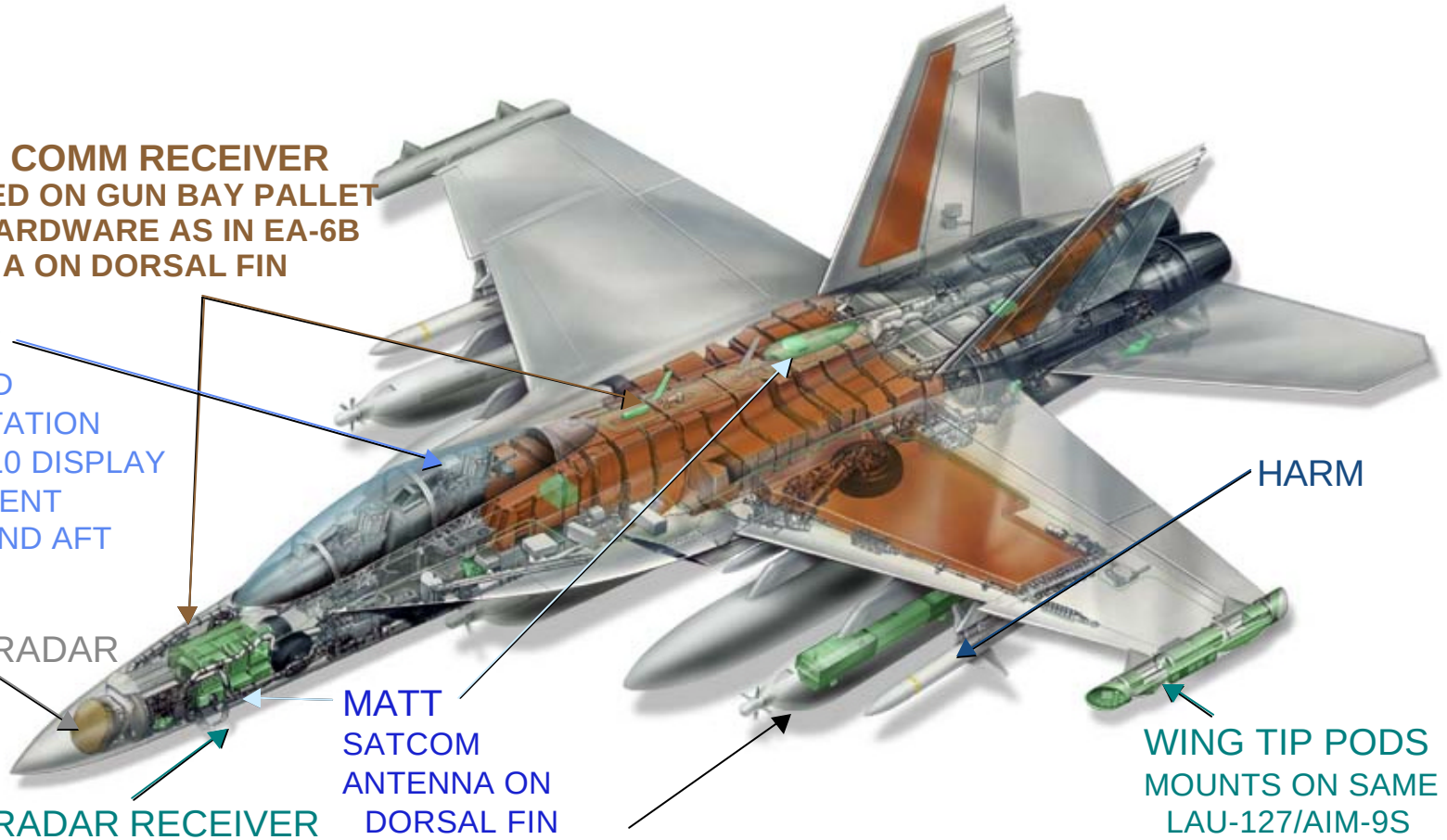
POTENTIAL CONFIGURATION FOR EA-6B FOLLOW ON



USQ-113 COMM RECEIVER
- MOUNTED ON GUN BAY PALLET
- SAME HARDWARE AS IN EA-6B
- ANTENNA ON DORSAL FIN

COCKPIT
ADVANCED
CREW STATION
WITH 8X10 DISPLAY
INDEPENDENT
FRONT AND AFT
SEAT

AESA RADAR

MATT
SATCOM
ANTENNA ON
DORSAL FIN

HARM

WING TIP PODS
MOUNTS ON SAME LUGS AS
LAU-127/AIM-9S

LR-700 RADAR RECEIVER
HIGH DEGREE OF COMMONALITY WITH
EA-6B HARDWARE
WRAs MOUNTED ON GUN BAY PALLET; ALL
WRAs ACCESSIBLE THROUGH EXISTING
AIRCRAFT DOORS
GUN REMOVED . . . PROVISIONS RETAINED

ALQ-99 TACTICAL JAMMING PODS
CARRIAGE OF 5 ALQ-99S (CL, MB, IB)

V-22 FUTURE

NACELLE UPGRADES

GUN

DIRECTED INFRARED COUNTERMEASURES (DIRCM)

DUAL DIGITAL MAP

WX RADAR

DUAL SATCOM

LINK 16

TF / TA MULTI-MODE RADAR (MMR)

VOICE ACTIVATED DATA RECORDER (VADR)

VMF COMMUNICATION

TRAFFIC COLLISION AVOIDANCE SYSTEM II (TCAS II)

EMBEDDED GPS INERTIAL (EGI)

SUITE OF INTEGRATED RADIO FREQUENCY COUNTERMEASURES (SIRFC)

GROUND COLLISION AVOIDANCE WARNING SYSTEM (GCAWS)

NAVAIR

MH-60 R / S PROGRAM

- NEW PRODUCTION 234 A/C
- REMANUFACTURE OF 9 A/C
- REPLACES SH-60B/F
- IOC FY05
- INCREASED SURFACE WARFARE, UNDERSEA WARFARE, COMMAND AND CONTROL CAPABILITIES

TCDL
KU BAND
REAL TIME SENSOR DATA LINK

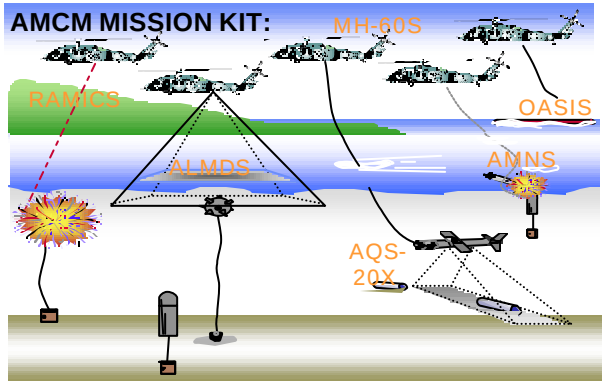
COMMON DIGITAL COCKPIT

CSAR IMPROVED GUN MOUNT SYSTEM

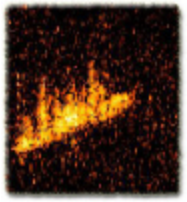
COTS ACOUSTIC PROCESSOR

ALQ-210
UPGRADED ESM

AQS-22 ALFS DIPPING SONAR



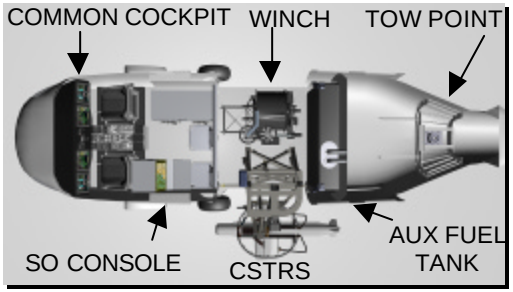
M-299 LAUNCHER



MULTI-MODE RADAR

TURRET UNIT (WRA-1)

FLIR

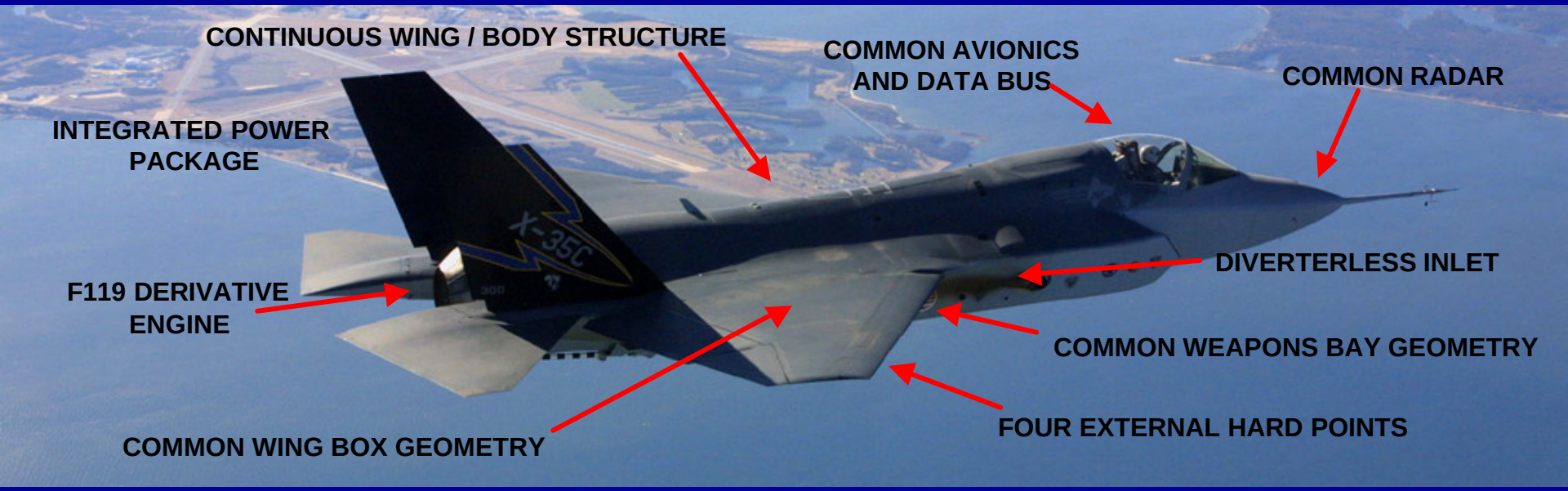


- NEW PRODUCTION of 237 A/C
- VERTREP IOC FY 02
- 5000 + LBS INTERNAL / EXTERNAL CARGO
- FULLY INTEGRATED GLASS COCKPIT AND MISSION SENSOR SUITE

NAVAIR

LOCKHEED MARTIN X-35 JOINT STRIKE FIGHTER

COMMON CHARACTERISTICS



SERVICE TAILORING

STOVL

- LIFT FAN
- 3 BEARING SWIVEL NOZZLE
- MISSIONIZED GUN

CTOL

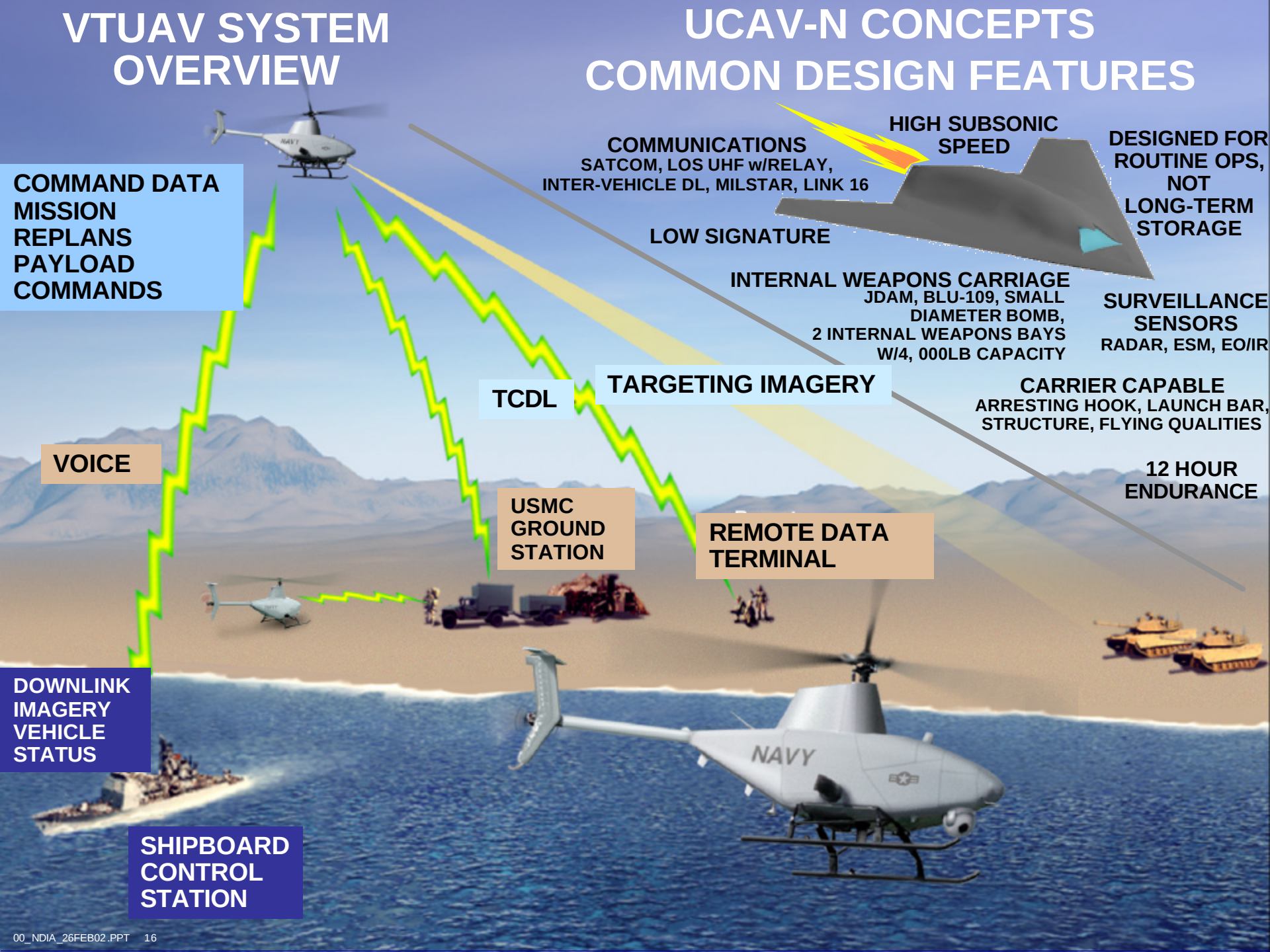
- LO AXI NOZZLE
- INTERNAL GUN

CV

- WING TIP FOLD
- HIGHER STRENGTH GEAR
- UNIQUE CONTROL SURFACES
- MISSIONIZED GUN

VTUAV SYSTEM OVERVIEW

UCAV-N CONCEPTS COMMON DESIGN FEATURES




WEAPONS

JOINT DIRECT ATTACK MUNITIONS

CLICK TO VIEW VIDEO

- ACCURATE GUIDANCE CAPABILITY IN ADVERSE WEATHER
- INTEGRATED ON EXISTING UNGUIDED WEAPONS
- LOW UNIT COST
- IN-FLIGHT CAPTIVE CARRIAGE RETARGETING CAPABILITY
- COMPATIBLE WITH F/A-18 C/D/E/F, F-14B/D, AV-8B, S-3, P-3
- 70+ OPERATIONAL DROPS

AIM-9X WEAPON SYSTEM

F-22

F/A-18 E/F

F-16

F-15C

JOINT STANDOFF WEAPON

- COMMON AIRFRAME (TRUCK)
  - GPS AIDED INS NAVIGATION
  - SURVIVABLE (SOPD / LO)
- FLEXIBLE MISSION
  - BLU - 97 SUBMUNITIONS (FRP)
  - BLU-108 SUBMUNITIONS (LRIP)
  - BROACH UNITARY (E&MD)
  - I^2R TERMINAL GUIDANCE (E&MD)

- PREPLANNED / SELF / 3RD PARTY TARGETING
- PROPOSED LINK-16
  - BHI
  - MOVING TARGET ACCURACY
  - AIM POINT SWEETENING

SUMMARY

AT THE HEART OF FUTURE NAVAL AVIATION IS NETWORK CENTRIC WARFARE . . . INFORMATION SUPERIORITY-ENABLED OPERATIONS

- **SHARED AWARENESS,**
- **INCREASED SPEED OF COMMAND,**
- **HIGHER TEMPO OF OPERATIONS**
- **GREATER LETHALITY,**
- **INCREASED SURVIVABILITY, AND DEGREE OF SELF SYNCHRONIZATION**


SEE THE WORLD
THROUGH THE FLEET'S EYES,
AND MEASURE OUR SUCCESS
BY THEIR SUCCESS